

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS PATENT
OF THE UNITED STATES IS:

1. An image forming apparatus comprising: a photoreceptor comprising:
an electroconductive substrate,
a photosensitive layer comprising a charge generation material and a charge transport material, and overlying the electroconductive substrate, and
a protection layer comprising an inorganic filler in an amount of from 3 to 25 % by weight based on total weight of the protection layer and a binder resin, and overlying the photosensitive layer;
a charger configured to charge the photoreceptor;
an irradiator configured to form an electrostatic latent image on the photoreceptor;
an image developer configured to develop the electrostatic latent image with a developer comprising a toner to form a toner image on the photoreceptor;
a transferer configured to transfer the toner image onto a transfer material; and
a cleaner configured to clean the photoreceptor, comprising a rotatable core and a looped brush fiber provided on the surface of the rotatable core so as to contact the photoreceptor, wherein a top of the looped brush fiber is positioned on an upstream side from a root of the looped brush fiber relative to a rotating direction of the rotatable core.
2. The image forming apparatus of Claim 1, wherein the cleaner has a same rotating direction as that of the photoreceptor at a contact position of the cleaner with the photoreceptor.
3. The image forming apparatus of Claim 1, further comprising an elastic blade contacting the photoreceptor at a point located on a downstream side from the cleaner relative to the rotating direction of the photoreceptor.

4. The image forming apparatus of Claim 3, wherein the elastic blade contacts the photoreceptor at a pressure of from 10 to 30 g/cm².

5. The image forming apparatus of Claim 1, wherein the inorganic filler has an average particle diameter of from 0.2 to 0.4 μ m.

6. The image forming apparatus of Claim 1, wherein the inorganic filler is a member selected from the group consisting of titanium oxide, silica, alumina and their mixtures.

7. The image forming apparatus of Claim 1, wherein the looped brush fiber comprises a filament having a thickness of from 4 to 20 denier.

8. A copier comprising:

an image reader configured to read an original image and produce image data thereof;

and

the image forming apparatus according to Claim 1, wherein the irradiator forms the electrostatic latent image according to the image data.

9. A process cartridge comprising: a photoreceptor comprising:

an electroconductive substrate,

a photosensitive layer comprising a charge generation material and a charge transport material, and overlying the electroconductive substrate, and

a protection layer comprising an inorganic filler in an amount of from 3 to 25 % by weight based on total weight of the protection layer and a binder resin, and overlying the photosensitive layer, and at least one of:

a charger configured to charge the photoreceptor; an image developer configured to develop the electrostatic latent image with a developer comprising a toner to form a toner image on the photoreceptor; and

a cleaner configured to clean the photoreceptor, comprising a rotatable core and a looped brush fiber provided on the surface of the rotatable core so as to contact the photoreceptor, wherein a top of the looped brush fiber is positioned on an upstream side from a root of the looped brush fiber relative to a rotating direction of the rotatable core.